Part 2: Permit to Operate
Modification of Existing Asphalt Roofing Line
Adding 2 Adhesive Applicators

APPLICANT'S NAME: OWENS CORNING ROOFING AND ASPHALT, LLC (Fac. ID 35302)

MAILING ADDRESS: 1501 NORTH TAMARIND AVE. COMPTON, CA 90222

EQUIPMENT LOCATION: 1501 NORTH TAMARIND AVE. COMPTON, CA 90222

EQUIPMENT DESCRIPTION (Facility Permit)

See facility permit (Section D) and the following description

Application 456914

Application to reissue Reclaim Facility Permit with the modification requested under ANs 424381 (Part 1), 456922 (**Part 2**).

Application 456922 [Permit to Operate, A Modification of Existing Asphalt Roofing Manufacturing Line (Supersedes A/N 465083 /Permit G12147)]

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions	Conditions
Process 3: ASPHALT ROOFING MANUFACTURING					
System 1: Asphalt Storage And Handling					
TANK, ASPHALT, 1500 GALS	D125	C132			D323.1, H23.1
HEATING TANK, ASPHALT, 545 GALS	D158	D125			
System 3: Calcium Carbonate, Sand, and Granule, Receiving, Storage And Handling					
BIN, SURGE, GRANULES	D50	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions	Conditions
CONVEYOR, BELT, CALCIUM CARBONATE, SAND, AND GRANULES	D51	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BIN, SURGE, GRANULE ACCUMULATOR AND DISTRIBUTOR	D52	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BIN, SURGE, GRANULE ACCUMULATOR AND DISTRIBUTOR	D53	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BIN, SURGE, GROUND SAND, CALCIUM CARBONATE, AND GRANULES	D54	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
HOPPER, DUMP, GROUD SAND, CALCIUM CARBONATE	D55	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
HOPPER, DUMP, SAND, CALCIUM CARBONATE	D56	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BUCKET ELEVATOR, CALCIUM CARBONATE, SAND	D57	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BUCKET ELEVATOR, WASTE	D63	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BUCKET ELEVATOR, PRIME	D104	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BUCKET ELEVATOR, WASTE	D105	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
BUCKET ELEVATOR, HEADLAP	D106	C75		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
System 4: Sealant Storage and Handling					
TANK, SURGE, SEALANT, 240 GALS	D93	C132			
TANK, SEALANT, MELT, 240 GALS	D95	C132			
TANK, CIRCULATOR, SEALANT, 240 GALS	D123	C132			
TANK, MELT, SEALANT, 240 GALS	D124	C132			
TANK, MELT, SEALANT ADHESIVE (MSA), 1500 GALS	D135	C132			

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions	Conditions
TANK, HOT MELT, MODIFIED LAMINANT ADHESIVE(MLA), 15000 GALS	D136	C132			
COATER, MLA APPLICATOR	D139	C132			
COATER, MSA APPLICATOR	D140	C132			
System 5: Fiberglass Roofing Production					
COATER, ASPHALT	D87	C132		[PM]: (9) [RULE 405, 2-7-1986] PM: 0.04 LB(S)/1000 LBS (8) [40CFR 60 Subpart UU, 8-5-1983]	A63.4, C1.1, C1.2, D323.1 **C1.5**
TANK, MIXER NO. 1, FILLED ADHESIVE, 150 GALLONS, 3 FT. DIA., 4 FT.H.	D154	C132			
TANK, MIXER NO. 2, FILLED SEALANT, 150 GALLONS, 3 FT. DIA., 4 FT.H.	D155	C132			
TANK, ASPHALT, SURGE, 1500 GALS	D89				
COATER, CALCIUM CARBONATE OR SAND, AND GRANULES APPLICATOR	D44	C75 C132		[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
PRESS, PRESSURE ROLLERS, GRANULE SETTING	D45			[PM]: (9) [RULE 405, 2-7-1986]	A63.4, D323.1, H23.1
COOLER, ASPHALT ROOFING	D129			[PM]: (9) [RULE 405, 2-7-1986]	D323.1
COATER, SEALANT APPLICATOR	D92	C132		[PM]: (9) [RULE 405, 2-7-1986]	
COATER, MLA APPLICATOR	***D161***	***C132***			
COATER, MLA APPLICATOR	***D162***	***C132***			
CONVEYOR, ACCUMULATION	D100			[PM]: (9) [RULE 405, 2-7-1986]	D323.1
CUTTER, SHINGLE	D49			[PM]: (9) [RULE 405, 2-7-1986]	D323.1
PACKAGING MACHINE	D94			[PM]: (9) [RULE 405, 2-7-1986]	

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions	Conditions
ACCUMULATOR, WCS PULL ROLLS, CARRYOVER CONVEYORS, SHEET SLITTER, AND FINISH LOOPER	D141				
CUTTER, WCS	D142				
PACKAGING MACHINE, WCS	D143				

BACKGROUND

Owens Corning (OC) filed application No.456922 on May 10, 2006 for a permit to operate two existing modified laminate adhesives (MLA) applicators. These two equipment were formally exempt equipment but have lost their exemption after July 11, 2003 per Rule 219. The applicant is required to submit an application for inclusion of two MLA applicators to the roofing production line permit.

Two MLA applicators (modified hot melt laminated adhesive applicators, Devices **D161** and **D162**) and other devices are employed for the production of West Coast Shingles (WCS). Emissions from the MLA applicators are controlled by the existing permitted roofing RTO (C132) under G12168 (A/N 465084). The introduction of these two MLA applicators first appeared in the submission of A/N 411708 for modification of roofing plant operation to incorporate the ability to produce West Coast Shingles. The engineer report of AN 411708 has documented well.

Roofing Line Permitting History

The roofing line has been modified many times since Permit F5673 (AN288191) issued at March 6, 1997. After AN 288191, there are two subsequent applications, AN 386673 and AN 465081. AN 465081 was granted a Permit to Operate (F89078), while AN 383673 was cancelled. The highlight of each modification is described below:

AN465081— Modification for adding a new product.
Process 3, System 2 -- Ground Limestone Storage and Handling – New devices including D147, D148, D149, D150, D151, D152 are proposed to be installed. PO was granted.

AN386673—Modification for using a proposed new RTO afterburner as a replacement of the existing 9.4 mmbtu/hr afterburner. Both AN 386673 and AN 465081 are derived from same previous application, AN 288191. Although AN386673 was cancelled, the subsequent applications are still linked to AN288191.

AN411708— Modification to the roofing line for a new product line called WSC.
Under Process 3, System 3, System 4 and System 5 are involved the change for replacement of D44, D87, D57 and D92, new devices, D135, D136, D139, D140, D141, D142 and D143. Per Owens Corning information, the construction was completed. PC was granted.

AN427252— Modification to the roofing line by introducing an exhaust hood between Devices D87 and D44 in System 5 Fiberglass Roofing Line for collecting more fume prior to RTO. PC was granted on 7-6-2004.

AN435080 – It is a request for PC (AN 411708) extension in order to continuing the installation two catchers. Since the catchers are exempt under Rule 219 and a permit action was not required. This application is therefore no longer applicable and was cancelled at 8/21/08.

AN465083 – Modification to the roofing line (AN 427252) for a new line called filled asphalt products in which increasing the nail area in the product. Devices D93, D95, D136, D87, D67 have been alternated and two mixing tanks, D154 and D155, have been installed. D67 has been removed. PO (G12147) has been granted on 2/25/2011.

AN456922— Modification to the roofing line (AN 465083). The applicant is required to submit this application to include two MLA in roofing line permitting. These two MLA applicators have been in WCS production line (Process 5, System 5- Fiber Glass) for years. Two MLA were formly Rule 219 exempt equipment and has been included in source testing on 11/9/2004 already, these should be part of roofing production line and shown on permit.

The application type has been corrected from equipment operating without permit (type 30) to modification (type 50), and becomes workable after AN 465083 granted PO.

The Company

Owens Corning Roofing & Asphalt, LLC (OC) at Compton, CA operates an asphalt plant and an asphalt roofing plant. Currently, it is a Title V and Reclaim facility under SCAQMD's regulations.

OPERATION SCHEDULE

Maximum and Average: 24 hrs/day, 7 days/wk, 52 wks/yr

PROCESS DESCRIPTION

Owens Corning produces four types of roofing products at Compton Facility: rolled roofing, standard residential roofing, laminated residential roofing and WCS residential roofing. The process is a continuous process with a roll of base material and ends with the finished product. There is one process line which manufactures all roofing products. Only one product may be manufactured at a time. The asphalt roofing production is currently limited by permit conditions to 1,200 tons per day and 28,320 tons per month of finished roofing material. Please refer to previous applications and the applicant 's supplemental report in title of "Permit to Construct Application Owens Corning, Compton, CA Roofing Plant" – Project #020501.0006, Rob Liles etal,Trinity Consultants, Feb. 2003 for roofing plant modification to incorporate the manufacturing of WCS product [Ref 1] (AN 411708).

The WCS modification does not call for an increase in overall production throughput, 1,200 tons per day or 28,320 tons per month, but does involved new and modified equipment installation .

All four products are manufactured on the same process line and only one product is made at a time. The process line operates a speed between 500 and 700 feet per minute (fpm). OC does not request a reduction of plant's maximum process line speed from 700 fpm to 500 fpm (when operating WCS line).

MLA Application System
According to Reference 1, the two previous rule 219 exempt MLA applicators and a sheet slitter (later as identified as D142) formed a new MLA application system. The WCS modification had been PC approved (411708). WCS pull rolls, WCS cutter, and WCS packaging machine are identified as D141, D142 and D143, respectively.

To produce WCS roofing shingles, a roll of base material (fiberglass mat) is placed on a reel and unwound onto a dry looper, next, the sheet moves through the asphalt coater, where filled asphalt coating is applied to the top and bottom surfaces simultaneously, then the sheet is applied granules to both sides, too, goes through pressure rollers, sealant applicators, D92, the soap application, the pull roll stands up to the new MLA application.

In the process stage of MLA application, the sheet is cut by the slitter (D142) into two strips, and one strip was applied adhesive by the MLA applicators, **D161 or D162**, then two strips are pressed back together. The combined sheet will be fed into another free loop and will be moved to the pattern cutter where will be cut into individual WCS. These shingles are then sent to the new packaging system.

EMISSIONS CALCULATIONS

VOC Emissions
In the evaluation report of AN 411708, Mr. Ken Matsuda (Permitting Engineer) has pointed out that VOC emissions resulting from the new equipment would be controlled by RTO C132. The plant can only produce one brand at a time, there is no increase in overall production of roofing material and no emission increase in any pollutant. Consequently, there is no New Source Review requirement under Rules 1303 and 2005.

According to Reference 1, the overall amount of MLA used in the manufacturing of WCS product were estimated to be 1.2 tons per hour, which is slightly higher than the amount used (0.4 tons per hour) in the roofing line before WCS modification (see Reference 1, Table 5-1). The VOC volatilization in the MLA is negligible since none of the ingredients is volatile (see MSDS). The VOC emission from the MLA applicators is controlled by C132, and was allocated to AN 411708 while these two claimed as rule 219 exempt equipment. Hence, the VOC emissions for this application should be reported to be zero, uncontrolled, controlled and 30 day average.

PM Emissions
The new MLA application system will only operate during WCS production. Emissions from the new sheet slitter will be fugitive. The PM emissions will be resulted from the new sheet slitter (fugitive), fume lines connecting to MLA applicators (controlled by RTO, C132), pattern cutter (fugitive emissions), and packaging system (fugitive emissions). Since no other roofing products will be manufactured during WCS process, there will be no increase in PTE from the new sheet slitter and the pattern cutter, and compliance with the current permitted PM emission requirement, Rule 405 will be maintained.

NSR/AEIS Data Entry

The proposed modification by including two previous 219 exempt MLA applicators will not result in any emission increase. All emission data shall be the same as those determined in AN465083 (previous permit). See Table 1.

Table 1 NSR DATA Entry

Emitter	AEIS		NSR
	R1, lb/hr	R2, lb/hr	AV30, lb/day
PM10	34	1.13	27
ROG	78	1.48	36

RULES AND REGULATIONS EVAULATION

Operation of the modified roofing manufacturing operation with addition of two laminate adhesive coaters is expected to comply with all applicable District rules and regulations. Specific compliance with the following rules is as follows:

Rule 401 **Visible Emissions**

Since two MLA applicators are vented to the regenerative thermal oxidizer, C132, no visible emissions are expected to be generated. Therefore, compliance with Rule 401 is expected.

Rule 402 **Nuisance**

Since these two MLA applicators are vented to the regenerative thermal oxidizer, C132, no nuisance should be generated, therefore compliance with Rule 402 is expected.

Rule 405 **Particular Matters –Weight**

Since the maximum permitted production is kept the same amount as prior to modification. Entire roof line is continued to comply with this rule.

Rule 407 **Liquid and Gaseous Air Contaminants**

Rule 407 limits CO emissions from combustion sources to less than 2000 ppmv. This will be discussed in control system AN465084. C132 will be effected by this rule. This rule does not apply to roofing manufacturing operation.

Rule 409 **Combustion Contaminants**

This rule does not apply to roofing line operation, but will apply to the control system, C132, will be discussed in future modification of AN465084.

Reg. 13 **New Source Review**

1303(a): BACT

BACT is triggered whenever construction of new equipment or modification results in a net emission increase of at least 1.0 lb/day of any criteria pollutant. The emission resulting from inclusion of these two MLA applicators is ROG, and it is negligible. Therefore BACTdoes not apply.

1303(b) (1) & (2): Modeling and Offsets—does not apply.

Rule 1401 **New Source Review of Toxic Air Contaminants**
The adhesive material used in the MLA applicators are not toxic materials per Table 1, Rule 1401. Therefore, compliance is expected.

Reg. 20 **RECLAIM**
Since there is neither NOx or SOx emissions from these two MLA applicators, so the modified roofing line system will have the same NOx and SOx emissions as pre modification.and will continue to comply with this rule.

40 CFR Part 60 subpart UU Continued compliance is expected.

RECOMMENDATION

1. **Permit Type**
   Issue an amended Section D (permit to operate) with the description and conditions.

2. **Source Testing**
   Since the equipment is controlled by a permitted regenerative thermal oxidizer, C132 under AN 465084 with permit condition that a source test on C132 is required. Up to date, the applicant did not submit any source test on C132, so the request for a source test is valid and will be addressed in facility permit revision.

PERMIT CONDITIONS

A63.4
The operator shall comply with the terms and conditions set forth below:

CONTAMINANT	EMISSIONS LIMIT
Visible emissions	Less than or equal to 1 percent opacity

[Devices subject to this condition: D44, D45, D50, D51, D52, D53, D54, D55, D56, D57, D63, D104, D105, D106]

C1.1
The operator shall limit the material process to no more than 1200 ton(s) in any one day.
For the purpose of this condition, material process shall be defined as finished roofing line product.

[Devices subject to this condition: D87]

C1.5
The operator shall limit the material processed to no more than 28320 tons(s) in any one month.

[Devices subject to this condition: D87]

D323.1
The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a semi-annual basis, at least, unless the equipment did not operate during the entire semi-annual period. The routine semi-annual inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2). Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual “Visible Emission Evaluation”, within their business days and report any deviations to AQMD.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

1) Stack or emission point identification;
2) Description of any corrective actions taken to abate visible emissions;
3) Date and time visible emission was abated; and
4) All visible emission observation records by operator or a certified smoke reader.

[Devices subject to this condition: D44, D45, D49, D50, D51, D52, D53, D54, D55, D56, D57, D63, D87, D104, D105, D106, D125, D129]

H23.1
This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
PM	40CFR60, SUBPART	UU

[Devices subject to this condition: D44, D45, D50, D51, D52, D53, D54, D55, D56, D57, D63, D87, D104, D105, D106, D125]

REFERENCES

1. "Permit to Construct Application Owens Corning, Compton, CA Roofing Plant" – Project #020501.0006, Rob Liles etal, Trinity Consultants, Feb. 2003.

2. Engineer Evaluation Reports, A/N411708, A/N 411709 and A/N 413206.